

New as of:

01.2015

CEREC Ortho SW

Software Version 1.0

Operator's Manual

English



Table of contents

1	Introduction.....	5
1.1	Dear Customer,.....	5
1.2	Copyright and trademark.....	5
1.3	Open source software	5
2	General data.....	6
2.1	General safety information	6
2.2	Structure of the manual	7
2.2.1	Identification of danger levels.....	7
2.2.2	Formats and symbols used	7
2.2.3	Conventions	8
2.2.4	Formats of the manual	8
2.3	User interface.....	9
2.3.1	Phase bar	9
2.3.1.1	Description	9
2.3.1.2	ACQUISITION	9
2.3.1.3	MODEL.....	9
2.3.1.4	EXPORT.....	9
2.3.2	Tool wheel.....	10
2.3.3	Step menu.....	10
2.3.4	System menu	11
2.3.5	The start window	11
3	Getting started.....	12
3.1	Installing the software	12
3.2	Uninstalling the software	12
3.3	Copy protection	13
3.4	Downloading software.....	13
3.5	Starting the software	13
3.6	License update	14
3.6.1	Installation of the License Manager (Individual).....	14
3.6.2	License update without Internet access	14
4	Configuration	15
4.1	Devices	15
4.1.1	CEREC Omnicam	15
4.1.1.1	Resetting settings.....	15
4.1.1.2	Calibration	16
4.2	Settings	18

4.2.1	Reset notes	19
4.2.2	Selecting a language	19
4.2.3	Seating position	19
5	System menu	20
5.1	Save scan	20
5.2	Save the scan under a different name	21
5.3	Import scan	21
5.4	Export scan	21
5.5	License manager	22
5.6	Configuration	22
5.7	Window mode	22
5.8	Current program version	22
5.9	Close the software	22
6	Start window	23
6.1	Creating a new patient	23
6.2	Patient search	24
6.3	Editing patient data	24
6.3.1	Editing a patient card	24
6.3.2	Deleting patients	24
7	Menu field	25
7.1	Views	25
7.2	Tools	25
7.2.1	Cut out model areas	26
7.3	Displaying objects	27
8	ACQUISITION phase	28
8.1	Camera view	28
8.2	3D Preview	28
8.3	Perform a scan	29
8.3.1	Camera warm-up time	29
8.3.2	Taking acquisitions with the CEREC Omnicam	29
8.3.3	Guided scanning	30
8.3.3.1	Sequence	30
8.3.3.2	Start the scan process	31
8.3.3.3	Lower jaw scan	32
8.3.3.4	Upper jaw scan	34
8.3.3.5	Buccal registration	36
8.3.4	Finishing the phase	36

9	MODEL phase.....	37
9.1	Set model axis.....	37
9.2	Check bite	38
9.3	Edit upper	38
9.4	Edit lower	38
9.5	Finishing the phase	38
10	EXPORT phase.....	39
10.1	Send model to Sirona Connect portal	39
10.1.1	Log in to the portal	39
10.1.2	Enter order data	39
10.1.3	Add additional information.....	40
10.1.4	Shopping cart	40
10.1.5	Order list.....	40
10.2	Send model to ClearCorrect.....	40
10.2.1	Log in to the portal	41
10.2.2	Enter order data	41
10.2.3	Add additional information.....	41
10.2.4	Shopping cart	41
10.2.5	Order list.....	41
10.3	Send model to Dolphin 3D	42
	Index.....	43

1 Introduction

1.1 Dear Customer,

Thank you for purchasing CEREC Ortho SW software from Sirona.

With CEREC Ortho SW and in combination with the CEREC AC Omnicam acquisition unit you can create scans and send them to your partner laboratory via the Sirona Connect portal. Any type of orthodontic apparatus can be manufactured from your impressions there.

Improper use and handling can create hazards and cause damage. Therefore, please read and follow this document carefully. You should always keep it within reach.

To prevent personal injury or material damage, it is important to observe all safety information.

Your
CEREC Ortho SW team,

1.2 Copyright and trademark

Copyright

© Sirona Dental Systems GmbH. All rights reserved.

The information contained in this manual may be changed without notice.

The software and all related documentation are protected by copyright. You must therefore handle it in the same way as any other protected material.

Anyone who copies this software to any medium for any purpose other than his own personal use without the written permission of Sirona Dental Systems will be liable to prosecution.

Trademarks

Microsoft® and Windows 7® are registered trademarks.

Windows™ is a trademark of Microsoft Corporation.

All other trademarks are the property of their respective holders.

1.3 Open source software

This product contains open source software. For more information, please refer to the Licence.pdf in the installation directory.

2 General data

Please read this document completely and follow the instructions exactly. You should always keep it within reach.

Original language of the present document: German

2.1 General safety information

Only use original software

Only use original software or software which has been released by Sirona. To produce restorations and equipment, manipulated or non-released software components must not be used.

Software and software components must not be installed using incorrect data.

Please check that each installed component has been granted approval in its country. Contact your dealer for more information.

Models to be checked by trained personnel

Every model created with this software must be checked for suitability by a trained person (e.g. orthodontist or dentist) before it is digitally saved or exported for further use.

All orthodontic apparatus manufactured using models from this software must be given to the patient by a trained individual.

For the USA only

CAUTION: According to US Federal Law, this product may be sold only to or by instruction of physicians, dentists, or licensed professionals.

2.2 Structure of the manual

2.2.1 Identification of danger levels

To prevent personal injury and material damage, please observe the warning and safety information provided in this document. Such information is highlighted as follows:



DANGER

An imminent danger that could result in serious bodily injury or death.



WARNING

A possibly dangerous situation that could result in serious bodily injury or death.



CAUTION

A possibly dangerous situation that could result in slight bodily injury.

NOTICE

A possibly harmful situation which could lead to damage of the product or an object in its environment.

IMPORTANT

Application instructions and other important information.

Tip: Information on making work easier.

2.2.2 Formats and symbols used

The formats and symbols used in this document have the following meaning:

✓ Prerequisite 1. First action step 2. Second action step - or ➤ Alternative action ↩ Result ➤ Individual action step	Prompts you to do something.
see "Formats and symbols used [→ 7]"	Identifies a reference to another text passage and specifies its page number.
• List	Designates a list.
"Command/menu item"	Indicates commands, menu items or quotations.

2.2.3 Conventions

Example	Meaning
Clicking	Pressing once and releasing the left mouse button or the left trackball button on the acquisition unit (or foot switch).
Double-clicking	Pressing twice quickly in succession and releasing the left mouse button or the left trackball button on the acquisition unit (or foot switch).
Moving the mouse in one direction	On the acquisition unit: Moving the trackball in the corresponding direction.
Seizing a point	Pressing the left mouse button (left trackball button on the acquisition unit) and keeping it pressed.
"Ctrl+N"	On the keyboard: Press the Ctrl and N keys simultaneously.
Drag & drop	(Drag & drop) Press and hold an element (e.g. pictograph), and drop onto new potential destination.

2.2.4 Formats of the manual



You can access the manual via the Help button or by pressing "F1".

You will find the Operator's Manual on the Internet in PDF format.

- *"<http://cerec-ortho.com>"*
You can download the current manual in the *"DOWNLOADS"/*
"Downloads" area.
- <http://www.sirona.com/manuals>

This format is page-oriented and is well suited for printing out the desired pages.

2.3 User interface

2.3.1 Phase bar



2.3.1.1 Description

For CEREC Ortho SW the digital scan process is divided into three phases.

2.3.1.2 ACQUISITION



In this phase, you can perform the following:

- Create optical impressions with CEREC camera
 - Lower jaw
 - Upper jaw
 - Buccal bite registration
- View a 3D preview of the acquisitions

2.3.1.3 MODEL



In this phase, you can perform the following:

- Set the model axis
- Check the bite situation
- Adjust the virtual models as required

2.3.1.4 EXPORT



In this phase, you can perform the following:

- log on to the Sirona Connect portal and transfer models to the laboratory of your choice
- send model to Dolphin 3D
- send model to ClearCorrect

2.3.2 Tool wheel

The tool wheel makes the standard tools available in the MODEL phase in order to simplify access. The tools currently available vary depending on the current step.

1. Right-click in the workspace.
↳ The tool wheel opens.
2. Click with the right mouse button anywhere in the workspace.
↳ The tool wheel moves to the position of the mouse pointer.
3. Select a tool.
↳ The selected tool is available. The tool wheel closes automatically.

You also can close the tool by clicking in the workspace with the left mouse button.

2.3.3 Step menu

The "ACQUISITION" and "MODEL" phases are divided into steps. They are shown in the step menu at the bottom edge of the screen. The step menu changes depending on which phase the current scan is in.

This menu guides you through the process step-by-step.

The double arrow keys can be used to switch between steps and phases.



Mandatory steps

Mandatory steps are marked with a red or green bar.

- Red bar: The step has not yet been completed successfully.
Green bar: The step has been completed successfully.

Optional steps

Optional steps do not have colored bars.

If you switch between the steps using the double arrow keys, the optional steps are skipped.

2.3.4 System menu

In the system menu, you can:

- Switch to the start window to start a new scan
- Save scan
- Save the scan under a different name
- Import scan
- Export scan
- Open license manager
- Configure hardware and software
- Change window mode
- Retrieve software information
- Close the software

2.3.5 The start window

In the start window, you can perform the following:

- Search in the database
- Display patients
- Add patients

3 Getting started

3.1 Installing the software

- ✓ The PC is powered up and all programs are terminated.
- ✓ You have downloaded the installation file from the Internet and saved it to the device.
- 1. Navigate to the location of the installation file.
- 2. Unzip the zip file and save the installation files.
- 3. Double-click the "setup. exe" file.
- 4. Select the language of the installation and click the button marked "OK".
 - ↳ The installation wizard opens.
- 5. Click on "Next".
 - ↳ The license agreement is shown.
- 6. Confirm the license agreement with the "Yes" button.
 - ↳ The program continues the installation routine.
- 7. Select "Full Installation".

NOTICE

Installing DirectX

If DirectX is not yet installed on your computer, it will be installed now. Accept the license agreement and decide whether the computer is to be restarted now or later.

- 8. After installation, you can display the "ReadMe" file by ticking or unticking the appropriate check box.
- 9. Click on the "Finish" button.

3.2 Uninstalling the software

- ✓ The program is closed.
- 1. Click on "Start / All Programs / Sirona Dental Systems / CEREC Ortho / Tools / Deinstallation" to uninstall the software.
 - ↳ During the uninstall procedure, you will be asked whether you want to delete the patient data or the entries in the registration database (e.g. the calibration data).
- 2. Depending on your decision, click either the "Yes" or "No" button.
 - ↳ The software is uninstalled.

3.3 Copy protection

The software can be started only when the USB license stick is plugged in. The USB license stick is included in the scope of supply of the acquisition unit. If you require additional licenses, please contact your dealer.

Always keep the USB license stick near the acquisition unit.

All authorizations (interface and software licenses) can be installed as electronic licenses on the USB license stick. You must enter a 25-digit license key for this purpose.

You will receive the license key along with the acquisition unit. Alternatively, you can order it separately from your dealer.

Following an update, you may require a new license that is not available on your USB license stick. For more information, refer to the section on License manager.

3.4 Downloading software

ServicePacks

To keep your software updated, regularly check whether new ServicePacks are available.

You can find information on current product versions and a description of the improvements and enhancements made in the ServicePack under "<http://cerec-ortho.com>".

3.5 Starting the software

- ✓ The CEREC Ortho SW software is installed. You will find the start icon on the desktop.
 - ✓ The USB license stick is connected with a valid, current license.
 - Double-click the CEREC Ortho SW start icon.
- or
- Click on "Start / All Programs / Sirona Dental Systems/ CEREC Ortho/CEREC Ortho SW".
- 🖱 The software is started.

3.6 License update

For more information on the license manager, refer to the section on License manager.

3.6.1 Installation of the License Manager (Individual)

- ✓ The PC is powered up and all programs are terminated.
- 1. Insert the DVD in the DVD drive.
 - ↳ The setup program starts automatically.
- 2. If this is not the case, run the "*Setup.exe*" file in the root directory of the DVD.
 - ↳ The installation wizard opens.
- 3. Click on the "*OK*" button.
- 4. In the next dialog, click the "*Next*" button.
 - ↳ The license agreement is shown.
- 5. Read through the license agreement carefully.
- 6. If you accept the license agreement, then activate the "*I accept the terms in the license agreement*" option button and click the "*Next*" button.
- 7. In the next dialog, click the "*Custom*" button.
- 8. Uncheck all options apart from the license manager.
- 9. In the next dialog, click the "*Next*" button.
- 10. In the next dialog, click the "*Install*" button.
 - ↳ The program continues the installation routine. This may take several minutes.
- 11. Click the "*Finish*" button once installation is complete.
 - ↳ The license manager is installed.

3.6.2 License update without Internet access

If the Sirona acquisition unit does not have Internet access itself, you can run the license manager on another PC with Internet access.

You need to remove the USB dongle from the Sirona acquisition unit and plug it into the PC with Internet access. The USB dongle is behind the lower cover at the rear side of the Sirona acquisition unit.

Install the license manager on the PC with Internet access and run the license update.

4 Configuration

The *"Configuration"* button is located in the system menu.

The *"Configuration"* menu contains the following submenus:

- *"Devices"*
- *"Settings"*

Close the *"Configuration"* menu by clicking on the *"Exit Configuration"* button

4.1 Devices



All connected devices can be displayed and configured under the menu item *"Devices"*.

A green check mark on a device indicates its availability.

4.1.1 CEREC Omnicam



Audio feedback

Using the *"Sound:"* selection box, you can switch the audio feedback for acquisitions on or off. You can control the volume using the slide bar. 3 different tone varieties are available.

Accepting settings

- Click on the *"Ok"* button.

Discarding settings

- Click on the *"Cancel"* button.

4.1.1.1 Resetting settings

- Click on the *"Reset Camera Settings"* button.
 - ↪ The settings are reset to factory settings.

4.1.1.2 Calibration

The measurement procedure used by the system requires the use of a calibrated CEREC Omnicam. The CEREC Omnicam is factory calibrated. Then calibrate the CEREC Omnicam after every reinstallation and after every transport. The calibration set supplied with the CEREC Omnicam is available for the calibration process. The supplied calibration set and a USB stick form a single unit.

Recalibrate the CEREC Omnicam in the following cases:

- following transport (shaking stress) or during first commissioning,
- after storage in unheated or un-air-conditioned rooms (temperature differences exceeding 30°C)
- with temperature differences of over 15°C between the last calibration and operation
- In general, carrying out a calibration is the correct process in the event of errors in the acquisition process (such as poor image quality or the lack of a 3D preview). In many cases, the errors can be corrected in doing so.

Prior to the first calibration

Ensure to take note of the serial number of the calibration set when starting the calibration, which must be used at this point. The number displayed in the software and the serial number on the calibration set must be identical.

The serial number of the calibration set to be used has been set on the CEREC AC with Omnicam at the factory. Prior to the first calibration after changing the PC and when switching the calibration set, you must enter the serial number of the calibration set to be used in the software. If you do not wish to do this, you can continue with "Start calibration [→ 16]".

When entering the serial number, the following steps should be followed:

1. Start the CalibRegistry.exe application on the USB stick included with delivery of the calibration set.
2. Enter the 8-digit Sirona ID. You can find the ID on the sticker on the calibration set.
 - ↳ With all future calibration work involving the *"CEREC Ortho SW"* software, you will be prompted to use this calibration set.

Start calibration

1. In the software, navigate to the system menu, and click on the *"Configuration"* button.
2. Click on the *"Devices"* button.
3. Click on the *"Omnicam"* button.
4. Click on the *"Calibrate"* button.
 - ↳ The camera view is displayed in one window.
5. Follow the prompt to set up the calibration set with the corresponding ID number. At this point, check that this ID matches the ID on your calibration set. If this is not the case, go back to "Prior to the first calibration [→ 16]".

Calibrate the camera



1. Remove the protective cap from the calibration set.
2. Mount the calibration set on the tip of the camera until it locks into place.
3. Secure the CEREC Omnicam in the calibration set using one hand. Ensure that the external calibration set screw is fully screwed in in a clockwise motion until it gently locks into place.
4. Click the "OK" button on your -.
 - ↳ The measuring process starts.
 - ↳ The software prompts you to proceed to the next latching.



5. Turn the screw counter-clockwise until you reach the next latching point.
6. Click the "OK" button on your -. In doing so, ensure that the CEREC Omnicam does not move.
 - ↳ The software confirms the calibration process.
 - ↳ The software prompts you to proceed to the next latching.
7. Execute steps 5 and 6 a total of **11** times.
 - ↳ The software provides status updates on the calibration and informs you once the procedure is complete.
 - ↳ You will be prompted to measure the position of the exit window.



Measuring the position of the exit window

1. Mount the bottom side of the calibration set to the tip of the camera.
2. Click the "OK" button on your -.
 - ↳ The calibration process is continued.
 - ↳ Once the calibration is complete, a message is displayed indicating this.
3. Confirm the message by clicking the "OK" button on your -.
 - ↳ The CEREC Omnicam is calibrated.

Error message during calibration

The software indicates if an error occurs during calibration. If the calibration process resulted in errors, restart the process.

End calibration

- ✓ The software indicates that the calibration was completed successfully.
- Click on the "OK" button.
 - ↳ The CEREC Omnicam is calibrated.

4.2 Settings

The menu item "Settings" has the following subitems:

- Reset notes
- Selecting a language
- Selecting a seating position



4.2.1 Reset notes

Warnings may appear in pop-up windows when using the software. Many of these messages can be deactivated by clicking on the *"Don't show this message again"* check box. If this check box is already selected or if a new user uses the software, all warnings can be reset here. All warnings are then displayed, if required.

Setting	Description
YES	Displays all the deactivated warnings in the workflow again.
NO	Warnings which were previously hidden, remain hidden.

4.2.2 Selecting a language

Here, you can set the language of the software. Once the software is rebooted, the language is set to your choice.

4.2.3 Seating position

Here you can adjust the scan display to the seating position of the patient.

You have the following options:

- *"Always next to or facing"*
- *"Facing for lower, behind for upper"*
- *"Always behind"*

5 System menu



In the system menu, you can:

- Close the opened scan and switch to the start window
- Save scan
- Save scan as
- Import scan
- Export scan
- Open license manager
- Configure hardware and software
- Change window mode
- Retrieve software information
- Close the software

Opening system menu

➤ Move the mouse cursor to the top of the window.

or

➤ Click the start window button.

☞ The system menu is displayed.



Closing system menu

➤ Click the start window button.

or

➤ Click into the main window with the left mouse button.

☞ The system menu is closed.



5.1 Save scan

In this dialog, you can save the current scan.

➤ Select "Save Scan" in the system menu.

☞ The scan is saved.



5.2 Save the scan under a different name

This dialog allows you to save the current scan under a new name or assign it to a different patient.



1. Select *"Save Scan as..."* in the system menu.
 ↳ The *"Save as..."* dialog box opens.
2. Enter a name for the scan.
3. Select the appropriate patient.
4. Click on the *"OK"* button.

5.3 Import scan



- ✓ A CEREC Ortho SW scan is located on your acquisition unit (or removable media).

1. Click the *"Import Scan..."* button in the system menu.
 ↳ A standard Windows dialog box opens.
2. Select the folder where the scan is located.
3. Select the relevant file.

NOTICE

File types

If the selected file ("*.ortho" or "*.dxd") is an optical impression with the CEREC Ortho SW software, it will be opened. If not, it will not open, and an error message will be displayed.

Scans which were not created with the CEREC Ortho SW Guided Scanningprocess can not be imported for orthodontic use.

4. Click the *"Open"* button.
5. Assign a name to the scan.
6. Click on the *"OK"* button.
 ↳ The scan is now imported and opened.

5.4 Export scan

You can save an optical impression in a compressed format in any location.



- ✓ You have opened a scan.
1. Select *"Export Scan..."*.
 ↳ A standard Windows file dialog box opens.
 2. Select the target folder to which you want to export the scan.
 3. Assign any name to the scan.
 4. Click on the *"Save"* button.
 ↳ The scan is exported.

If you want to transfer the scan from your acquisition unit to another PC (e.g. in order to upload it to the Web portal), you can use a USB stick for this purpose.

5.5 License manager



The license manager is used for the installation of new software licenses on the USB license stick. To do this, start the license manager via the system menu and follow the instructions on the screen. Keep the license certificate with 25-digit license key ready, which you either obtained with the unit or ordered separately from your dealer.

Tip: You can also start the license manager via "Start / All Programs / Sirona Dental Systems / CAD/CAM / CEREC Ortho / Tools / License Manager".

To activate the license you must have an Internet connection and the USB license stick must be connected.

Licenses and code libraries

For information on licenses and code libraries from third parties, see licenses.pdf. The file is in the installation directory under "C:/Programs/Sirona Dental Systems/CAD/CAM".

5.6 Configuration

The configuration is described in the chapter "Configuration".



5.7 Window mode

The "*Window Mode*" function can be used to exit full-screen mode or enter it again.



5.8 Current program version

The "*About*" function contains information about the current program version.



5.9 Close the software

The "*Exit*" function can be used to close the software.



6 Start window

In the start window, you can perform the following:

- Search in the database
- Display patients
- Add patients

Switch to the start window

If you have a scan open you can switch to the start window by closing the scan.

1. Open the system menu.
2. Click on the *"Close"* button.
 - ↳ If the current scan has not been saved, a prompt appears asking if the scan should be saved.
3. Confirm the prompt to save the scan.
 - ↳ The start window is displayed.



6.1 Creating a new patient

In the data structure, a patient is uniquely identified by one of the following two entries:

- Surname, first name and date of birth
or
- Patient ID

Adding patients

1. Click on the *"Add New Patient"* button.
 - ↳ An empty patient card is opened.
2. Enter a surname, first name, and date of birth.
or
 - Enter the patient ID.
 - ↳ Once you have entered enough information, the bar in the *"Edit Patient"* step turns from red to green.
3. Click on the *"Add New Case"* button.
 - ↳ The program switches over to the *"ADMINISTRATION"* phase.



6.2 Patient search

Displaying all patients

The *"Show All Patients"* function can be used to display all patients.



Searching for individual patients

You can view individual patients by searching for them.

1. Click into the search text box.
2. Enter the surname or the patient ID.
3. Click the magnifying glass to start.
 - ↳ The program now shows all the search results.



6.3 Editing patient data

6.3.1 Editing a patient card

- ✓ You have found the patient with the search function.
1. Click on the patient card.
 - ↳ The patient card/case view is opened for editing.
 2. Click on the *"Edit Patient"* step in the step menu.
 - ↳ The changes are saved in the memory.
 3. Carry out the changes.
 4. Confirm your changes by clicking the *"Ok"* button.
 - ↳ The patient card/case view is displayed.
 5. Click the double arrow on the left side of the step menu.
 - ↳ The patient card/case view is displayed.



6.3.2 Deleting patients

- ✓ You have found the patient with the search function.
1. Click on the patient card.
 2. Click on the *"Delete Patient"* step in the step menu.
 3. Confirm the deletion by clicking the *"Ok"* button.
 - ↳ The patient is deleted.



7 Menu field

The menu field offers you various different functions, depending on the current step.

7.1 Views

Global

You can use the *"View Options"* button to display six predefined views in the *"Global"* area.

- *"Top"*
- *"Bottom"*
- *"Right"*
- *"Left"*
- *"Anterior"*
- *"Posterior"*

Changing the view

1. Click on the *"View Options"* button.
2. Click on one of the proposed views.
 - ↳ The virtual model rotates to the corresponding view.

Enlarge or reduce the view

1. Click on the *"View Options"* button.
2. Position the mouse pointer over the center tooth icon and press and hold the left mouse button.
 - ↳ The icon then changes to a magnifying glass.
3. Pull the mouse button up or down.
 - ↳ The virtual model is then enlarged or reduced.

Tip: You can also use the center mouse button and the trackball directly on the virtual model to enlarge or reduce a view.

7.2 Tools

The most important tools are also offered to you in the tool wheel. For more information on the tool wheel, refer to the section *"Tool wheel"*.

You will find all tools as a submenu under *"Tools"*.

Tip: You can cancel the current tool with the stop icon (top right).

Undo and reset

With the *"Undo"* button in the tools you can undo the last change made.

With the *"Reset"* button in the tools you can reset changes that were made with the tool.



7.2.1 Cut out model areas



Regions of the model can be cut off using the *"Cut"* function. The cut plane lies orthogonal to the screen plane.

Remove model area

The *"Discard Part"* function enables model areas to be removed.

When performing this activity, be careful not to accidentally cut out any areas that e.g. are located behind the model or are otherwise cut away from the line.

1. Click on the *"Cut"* button.
2. Begin the cut line with a double-click.
3. Click to set additional points.
4. Finish the cut by double clicking.
 - ✎ The model area is cut off.

Invert model area

With the *"Invert Selected"* function, the model area that is cut out can be inverted.

- ✓ The *"Cut"* tool is selected.
- ✓ You have created a cut.
- Click on the *"Invert Selected"* button.
 - ✎ The model area which was cut out is displayed.
 - The rest of the model area is hidden.

Tip: You can invert the model area that is cut out by double-clicking on the semitransparent cut-out area.

7.3 Displaying objects

Upper jaw



With the *"Upper Jaw"* button, you can display and hide the upper jaw.

1. Click on the *"View Options"* button.
2. Click on the *"Upper Jaw"* button.
 - ↪ The upper jaw is displayed or hidden.

Lower jaw



With the *"Lower Jaw"* button, you can display and hide the lower jaw.

1. Click on the *"View Options"* button.
2. Click on the *"Lower Jaw"* button.
 - ↪ The lower jaw is displayed or hidden.

Display upper/lower jaw transparently

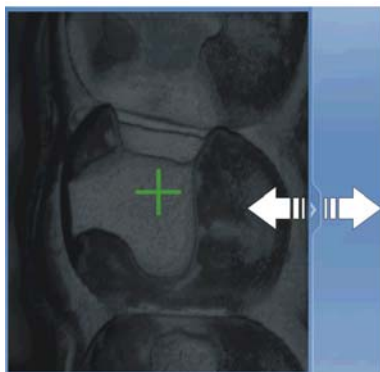
You can adjust the transparency of the upper/lower jaw continuously.

1. Click on the *"View Options"* button.
2. Place the mouse pointer on the appropriate button, press and hold the left mouse button and move the mouse up or down.
 - ↪ The transparency of the jaw concerned is changed.



8 ACQUISITION phase

8.1 Camera view



You can adjust the size of the camera view proportionally.

1. Click the arrow at the right edge with the mouse and hold down the mouse button. 
2. Drag the camera view to enlarge or reduce it. 

8.2 3D Preview

You can freely select the viewing direction of the virtual model in the 3D preview window by using the mouse.

Rotating a 3D preview

1. Click on the 3D preview with the left mouse button and hold it down.
 2. Move the mouse.
-  The 3D preview is rotated.

Moving the 3D preview

1. Click on the 3D preview with the right mouse button and hold it down.
 2. Move the mouse.
-  The 3D preview is moved.

Zooming into/out of the 3D preview

1. Click on the 3D preview with the middle mouse button and hold it down.
 2. Move the mouse up or down as desired.
-  The 3D preview is enlarged or reduced.

8.3 Perform a scan

8.3.1 Camera warm-up time

When switching on the system, the camera needs to warm up for 15 - 20 minutes. If the sapphire glass of the Omnicam is not sufficiently warm, it may steam up during the acquisition. As such, it is not possible to carry out the exposure.

Following use, always position the Omnicam on the heater plate.

From CEREC Ortho SW software version 4.0.4 and unit serial number 121 001, you can now set the end temperature to which the camera heater warms the Omnicam mirror sleeve.

1. In the software, navigate to the system menu, and click on the *"Configuration"* button.
2. Click on the *"Devices"* button.
3. Click on the *"Omnicam"* button.
4. Click on the *"Camera Heater Settings"* button.
5. Use the slider to adjust the temperature.

8.3.2 Taking acquisitions with the CEREC Omnicam

CAUTION

Hot surface!

The output window of the CEREC Omnicam is preheated in the camera holder. When removing the CEREC Omnicam from its holder, the surface temperature of the mirror sleeve can be up to 51°C. This may cause an unpleasant heat sensation on contacting a person's skin or mucous membrane. These temperatures will not damage anyone's skin or mucosal membrane.

After removing the CEREC Omnicam from its camera holder, the temperature of the mirror sleeve drops within a number of minutes (< 5 minutes) to less than 43°C. The CEREC Omnicam is therefore suitable for use in the patient's mouth for an unlimited period of time.

At an ambient temperature from 30°C, only select the three lower heater settings.

NOTICE

Image brightness

The image brightness during the acquisition is controlled automatically, so that there is always optimum image brightness, largely independent of the distance between the CEREC Omnicam and the tooth.

The surroundings of the tooth to be scanned should be as weakly illuminated as possible. Avoid any type of external light. Switch off the operating light.

IMPORTANT

Do not use cotton rolls in the scan area

Do not use any cotton rolls in the vicinity of the scan area.
Should any pieces of cotton roll contaminate this area, the acquisitions will be inaccurate.

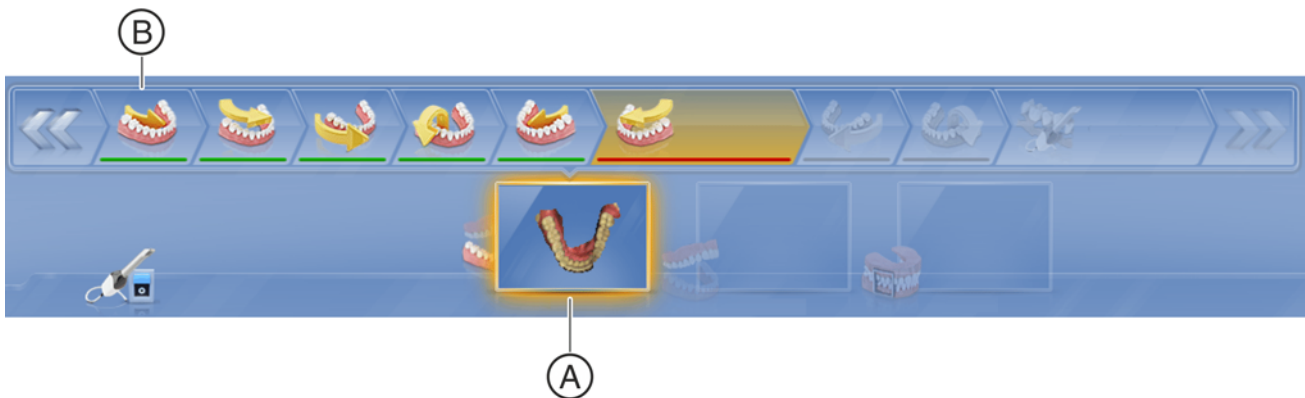
8.3.3 Guided scanning

8.3.3.1 Sequence

Description

For the CEREC Ortho SW Guided Scanning process, the complete lower jaw, complete upper jaw, and the bite situation are scanned. The Guided Scanning process guides the user through several partial scans whereby the single quadrants are scanned. A complete model is then rendered from the partial scans.

Scan objects and sequence bars



The Guided Scanning process contains 3 scan objects (A):

- Lower jaw scan
- Upper jaw scan
- Buccal registration

The selected scan object is highlighted in yellow.

Every scan object contains several steps which are displayed in a sequence bar (B).

The selected step is highlighted in yellow and marked with a red line.

When a step is finished it is marked with a green line in the sequence bar and the software switches to the next step.

You can repeat the last step by clicking on the double arrow on the left side of the sequence bar. In this case the current scan step is discarded and must be repeated.

User guidance

You are guided through the acquisition steps with tone signals and graphic displays.



- The start point of a partial scan is displayed with a start marker (green).
- The end point of a partial scan is displayed with a target marker (black/white).
- If the start marker or target marker are marked with an hourglass symbol, the camera must be held in this position until the start marker or target marker disappears.
- If the camera has identified the start point of a partial scan, the tone signal changes and the start marker is hidden. The exposure begins.
- The guide direction for the camera is displayed with arrows.
- If the automatic data flow is interrupted, the tone signal changes and a start marker is displayed. In this case guide the camera to the start marker. As soon as the correct position has been found, the tone signal changes and the start marker disappears. The acquisition procedure continues.

Switching Omnicam on/off



You can switch the camera on/off by clicking on the Omnicam symbol in the bottom left.

8.3.3.2 Start the scan process

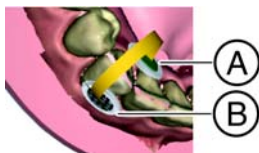
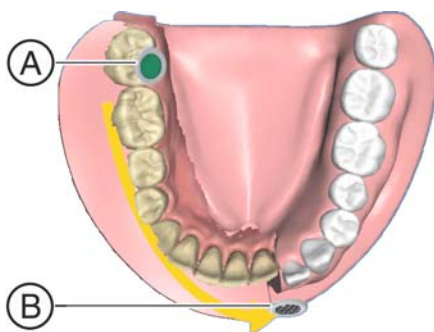
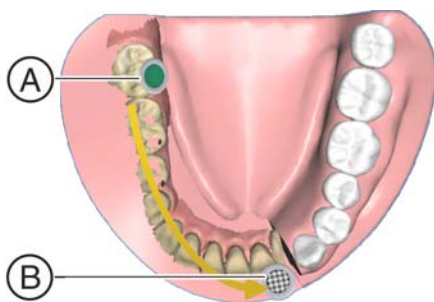
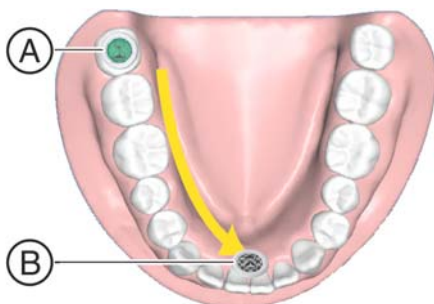
- ✓ The correct working position is taken up
- ✓ The teeth are blow-dried
- Change to phase "SCAN".



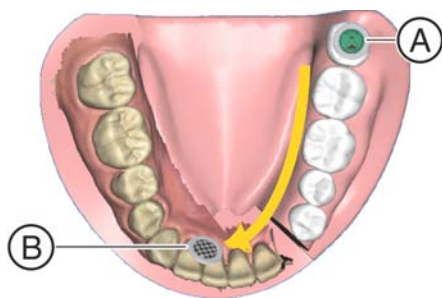
8.3.3.3 Lower jaw scan

Scan the right-hand quadrants

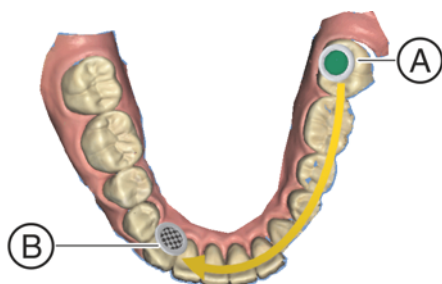
1. Remove the CEREC Omnicam from its holder.
 - ↳ The step list for scanning the lower jaw is displayed.
 - ↳ The first step, *"Scan lingual right"*, is selected in the step list.
2. Position the camera above the last molar on the right of the lower jaw and hold the camera in this position to mark the start of the scan.
 - ↳ The green start marker (A), which marks the starting point for the partial scan, slowly disappears and the scan begins.
 - ↳ The guide direction for the camera is shown with an arrow.
3. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target marker (B) on the centerline.
 - ↳ When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker slowly disappears.
 - ↳ The software automatically changes to the next *"Scan occlusal right"* step.
4. Position the camera above the last molar on the right. The starting point is marked with a green start marker (A) and is automatically recognized. Guide the camera occlusally in the direction of the arrow as far as the target marker (B) on the centerline.
 - ↳ If the centerline has been scanned a signal tone will be heard.
 - ↳ The software changes to the next *"Scan vestibular right"* step.
5. Position the camera above the last molar on the right. The starting point is marked with a green start marker (A) and is automatically recognized.
6. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the target marker (B) on the centerline.
 - ↳ If the centerline has been scanned a signal tone will be heard.
 - ↳ The software changes to the next *"Scan transversal right"* step.
7. Guide the camera in the direction of the arrow over the marked area from the start marker (A) to the target marker (B).
 - ↳ If the connection is scanned a signal tone will be heard.
 - ↳ The software changes to the next left-hand quadrant step.



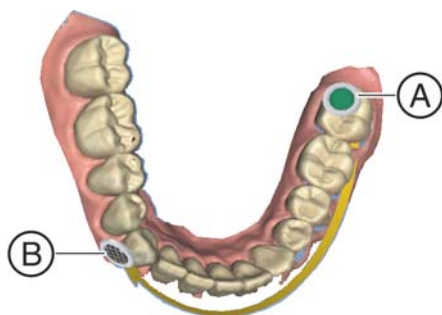
Scan the left-hand quadrant and complete the lower jaw scan



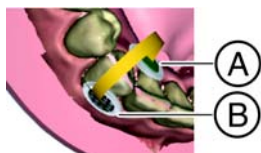
1. Position the camera above the last molar on the left of the lower jaw and hold the camera in this position to mark the start of the scan.
 - ✚ The green position marker (A), which marks the start of the scan, slowly disappears and the scan begins.
 - ✚ The guide direction for the camera is shown with an arrow.
2. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target marker (B) on the centerline.
 - ✚ When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker (B) slowly disappears.
 - ✚ The software automatically changes to the next *"Scan occlusal left"* step.



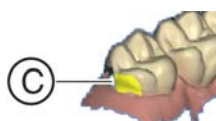
3. Position the camera above the last molar on the left. The starting point is marked with a start marker (A) and is automatically recognized. Guide the camera occlusally as far as the target marker (B) on the centerline.
 - ✚ If the centerline has been scanned a signal tone will be heard.
 - ✚ The software changes to the next *"Scan vestibular left"* step.



4. Position the camera above the last molar on the left. The starting point is marked with a green start marker (A) and is automatically recognized.
5. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the target marker (B) on the centerline.
 - ✚ If the centerline has been scanned a signal tone will be heard.
 - ✚ The software changes to the next *"Scan transversal left"* step.



6. Guide the camera in the direction of the arrow over the marked area from the start marker (A) to the target marker (B).
 - ✚ If the connection is scanned a signal tone will be heard.
 - ✚ The software changes to the *"Complete Jaw"* step.



7. Rescan the areas marked in yellow (C) in the model. This step is optional.
 - ✚ The lower jaw scan is finished.

8.3.3.4 Upper jaw scan

Scan the right-hand quadrants

✓ The lower jaw has been scanned.

1. Click on the "Upper Jaw" scan object.

✎ The step list for scanning the upper jaw is displayed.

✎ The first step, "Scan lingual right", is selected in the step list.

2. Position the camera above the last molar on the right of the upper jaw and hold the camera in this position to mark the start of the scan.

✎ The green start marker (A), which marks the starting point for the partial scan, slowly disappears and the scan begins.

✎ The guide direction for the camera is shown with an arrow.

3. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target marker (B) on the centerline.

✎ When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker slowly disappears.

✎ The software automatically changes to the next "Scan occlusal right" step.

4. Position the camera above the last molar on the right. The starting point is marked with a green start marker and is automatically recognized. Guide the camera occlusally as far as the target marker (B) on the centerline.

✎ If the centerline has been scanned a signal tone will be heard.

✎ The software changes to the next "Scan vestibular right" step.

5. Position the camera above the last molar on the right. The starting point is marked with a green start marker (A) and is automatically recognized.

6. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the target marker (B) on the centerline.

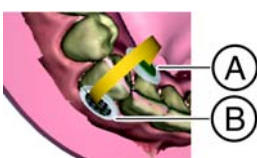
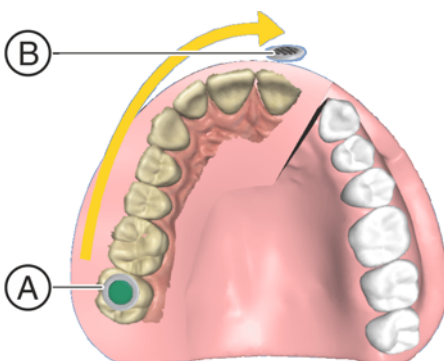
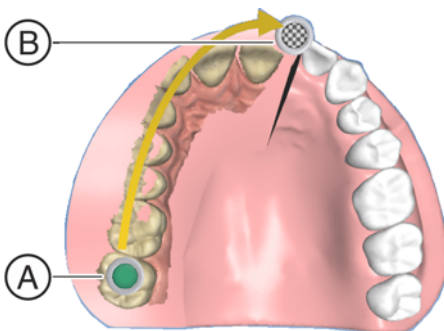
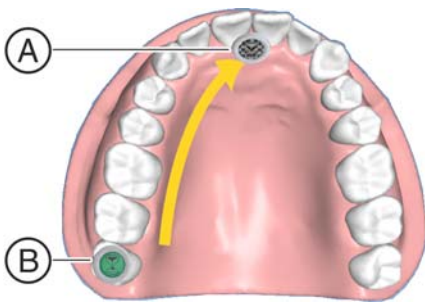
✎ If the centerline has been scanned a signal tone will be heard.

✎ The software changes to the next "Scan transversal right" step.

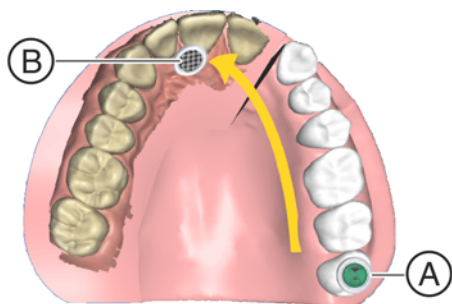
7. Guide the camera in the direction of the arrow over the marked area from the start marker (A) as far as the target marker (B).

✎ If the connection is scanned a signal tone will be heard.

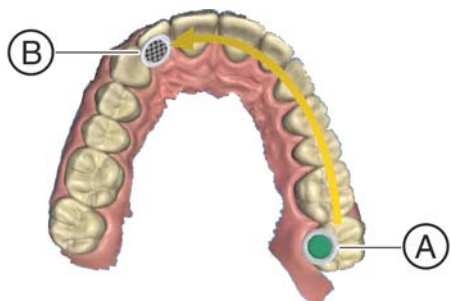
✎ The software changes to the next left-hand quadrant step.



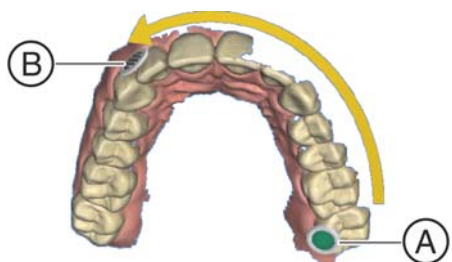
Scan the left-hand quadrant and complete the upper jaw scan



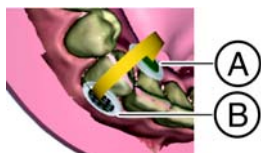
1. Position the camera above the last molar on the left of the upper jaw and hold the camera in this position to mark the start of the scan.
 - ✦ The green start marker (A), which marks the start of the scan, slowly disappears and the scan begins.
 - ✦ The guide direction for the camera is shown with an arrow.
2. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target marker (B) on the centerline.
 - ✦ When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker (B) slowly disappears.
 - ✦ The software automatically changes to the next *"Scan occlusal left"* step.



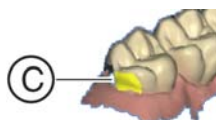
3. Position the camera above the last molar on the left. The starting point is marked with a green start marker (A) and is automatically recognized. Guide the camera occlusally as far as the target marker (B) on the centerline.
 - ✦ If the centerline has been scanned a signal tone will be heard.
 - ✦ The software changes to the next *"Scan vestibular left"* step.



4. Position the camera above the last molar on the left and hold the camera in this position to mark the start of the partial scan.
5. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the centerline.
 - ✦ If the centerline has been scanned a signal tone will be heard.
 - ✦ The software changes to the next *"Scan transversal left"* step.

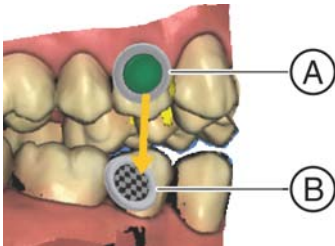


6. Guide the camera in the direction of the arrow over the marked area.
 - ✦ If the connection is scanned a signal tone will be heard.
 - ✦ The software changes to the *"Complete Jaw"* step.



7. Rescan the areas marked in yellow in the model. This step is optional.
 - ✦ The upper jaw scan is finished.

8.3.3.5 Buccal registration



- ✓ The lower jaw and upper jaw have been scanned.
- 1. Click the *"Buccal"* scan object.
 - ↳ The sequence bar for the buccal registration is displayed.
- 2. Perform the buccal registration on the right side by having the patient bite as required and guiding the camera from the start marker (A) to the target marker (B).
 - ↳ As soon as the buccal registration is finished a signal tone will be heard.
 - ↳ The software changes to the next *"Scan buccal left"* step.
- 3. Perform the buccal registration on the left side by guiding the camera from the start marker (A) to the target marker (B).
 - ↳ As soon as the buccal registration is finished a signal tone will be heard.

8.3.4 Finishing the phase



- ✓ All required scans have been performed (lower jaw, upper jaw, buccal registration).
- ✓ The *"MODEL"* phase can be selected.
- Click on the *"MODEL"* phase.

or

- Click on the double arrow.
- ↳ The program switches over to the *"MODEL"* phase.

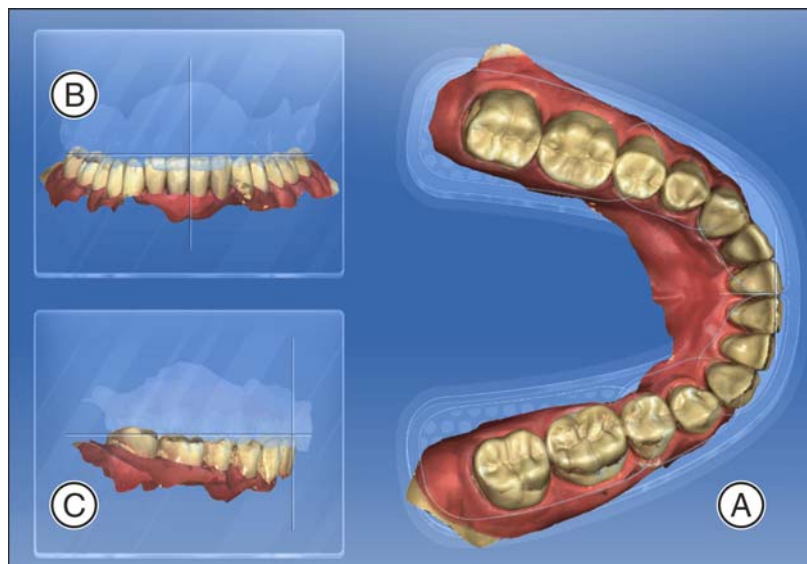
9 MODEL phase

In the *"MODEL"* phase, the virtual models are reconstructed based on the acquired image catalogs.

The *"Set Model Axis"* step is required.

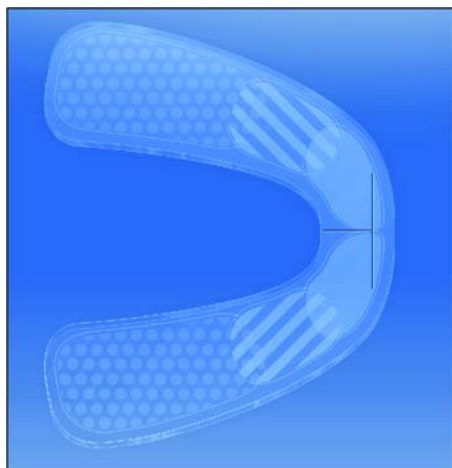
The *"Check Bite"*, *"Edit Lower"*, and *"Edit Upper"* steps are optional.

9.1 Set model axis



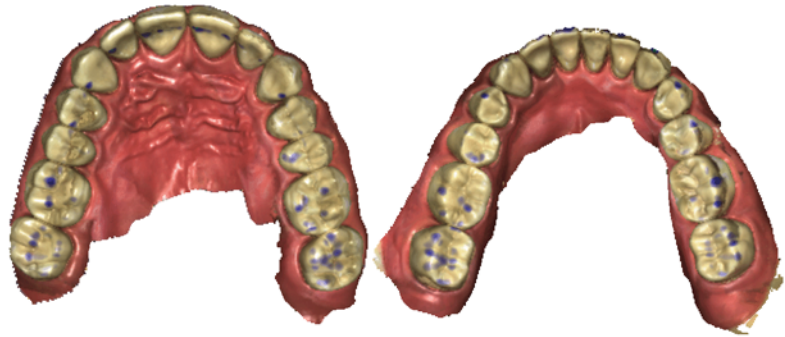
Set the axes for model alignment. Please ensure a consistent representation here.

This alignment is required to create optimal view options and initial suggestions.



1. Align the model to the orientation of the jaw (A). Each tooth must be in its respective quadrant. Align the incisors based on the displayed center line.
2. Align the incisal edges along the displayed line (B). If necessary, rotate the model by clicking on the display, holding the mouse button down and dragging the model.
3. Align the model for the occlusion plane (C). If necessary, tilt the model by clicking on the display, holding the mouse button down and dragging the model.

9.2 Check bite



In this step the contact points of both jaws are displayed in order to allow a check against the natural situation.

The colored displays of the contact points have the following meanings:

Penetration/pressure:

Red	> 100 μm
Yellow	100 - 50 μm
Green	50 - 0 μm

Distance:

Light Blue	0 - 50 μm
Medium Blue	50 - 100 μm
Dark Blue	> 100 μm

9.3 Edit upper

In the "*Edit Upper*" step, you can work with the following tool:

- "*Cut*"

Use of the individual tools is described in the section "Menu field [→ 25]".

9.4 Edit lower

In the "*Edit Lower*" step, you can work with the following tool:

- "*Cut*"

Use of the individual tools is described in the section "Menu field [→ 25]".

9.5 Finishing the phase

- ✓ The "*EXPORT*" phase can be selected.
- Click on the "*EXPORT*" phase.



or

- Click on the double arrow.
- The program switches over to the "*EXPORT*" phase.

10 EXPORT phase

In this phase you can perform the following:

- Send model to SIRONA Connect portal
- Send model to ClearCorrect
- Send model to Dolphin 3D

10.1 Send model to Sirona Connect portal

Model data in the Sirona Connect Portal

The Sirona Connect Portal saves the data only briefly. The data is promptly deleted for data protection reasons.

- ✓ You are registered on "*www.sirona-connect.com*" as a dentist.
- ✓ In your account settings at least one favored laboratory is selected.
- Click on the "*Sirona Connect Portal*" button.



10.1.1 Log in to the portal

1. Enter user name and password.
2. Activate the relevant option if you want to save the user name and password.
3. In the step menu, click on "*Ok*".
 - ↳ The data are uploaded in parallel to the information being entered in the portal.

10.1.2 Enter order data

In this step you can select the lab to which the case is to be sent and enter the desired delivery date.

IMPORTANT

Maximum 5 labs

You can save a maximum of 5 labs in the list of your favorite labs.

Via "*Edit your favourite laboratories*" you can add labs to or delete labs from the list.

Under "*Return Date*" you can select the delivery date by clicking on the desired day in the calendar. Under "*Time*" you can also state a delivery time.

Then click on "*Add Additional Information*" to go on to the next step.

10.1.3 Add additional information

In this step you must add the patient's gender and insurance type (Germany only).

Under "*Additional Instructions*" there is a free text field available for additional written information.

Using the "*Additional Files*" function you can send additional files (photos).

Then click "*Update list*" to move to the shopping cart.

10.1.4 Shopping cart

In the shopping cart you can check the order details, modify them or delete the order from the shopping cart.

Your current delivery and invoice address is displayed.

In the top left corner you can see the progress for loading the model file.

As soon as the file has been fully uploaded and all the information is correct, you can send the order to your lab via "*Submit Cart*". To do so under "*Verification*" you must enter your password and confirm it with "*Ok*". The order list is then inserted automatically.

10.1.5 Order list

All sent orders are displayed in the order list. The most recently sent order is always at the top.

You can filter the orders by the various statuses via the filter below the list.

In order to view the order details you must click the relevant order in the list so that it is highlighted in orange. Then you can view the details by clicking on "*View Order*" in the step menu.

Via the step menu you can call up individual items of information on the highlighted order.

10.2 Send model to ClearCorrect

Exporting a model to ClearCorrect occurs via the Sirona Connect Portal.

Model data in the Sirona Connect Portal

The Sirona Connect Portal saves the data only briefly. The data is promptly deleted for data protection reasons.

- ✓ You are registered on "*www.sirona-connect.com*" as a dentist.
- ✓ In your account settings "*ClearCorrect*" is selected as a favored laboratory.
- Click on the "*ClearCorrect*" button.



10.2.1 Log in to the portal

1. Enter user name and password.
2. Activate the relevant option if you want to save the user name and password.
3. In the step menu, click on *"Ok"*.
 - ↳ The data are uploaded in parallel to the information being entered in the portal.

10.2.2 Enter order data

You can enter the desired delivery date in this step.

Under *"Return Date"* you can select the delivery date by clicking on the desired day in the calendar. Under *"Time"* you can also state a delivery time.

Then click on *"Add Additional Information"* to go on to the next step.

10.2.3 Add additional information

In this step you must add the patient's gender and insurance type (Germany only).

Under *"Additional Instructions"* there is a free text field available for additional written information.

Using the *"Additional Files"* function you can send additional files (photos).

Then click *"Update list"* to move to the shopping cart.

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In the shopping cart you can check the order details, modify them or delete the order from the shopping cart.

Your current delivery and invoice address is displayed.

In the top left corner you can see the progress for loading the model file.

As soon as the file has been fully uploaded and all the information is correct, you can send the order to your lab via *"Submit Cart"*. To do so under *"Verification"* you must enter your password and confirm it with *"Ok"*. The order list is then inserted automatically.

10.2.5 Order list

All sent orders are displayed in the order list. The most recently sent order is always at the top.

You can filter the orders by the various statuses via the filter below the list.

In order to view the order details you must click the relevant order in the list so that it is highlighted in orange. Then you can view the details by clicking on *"View Order"* in the step menu.

Via the step menu you can call up individual items of information on the highlighted order.

10.3 Send model to Dolphin 3D

IMPORTANT

In order to send a virtual model to Dolphin 3D, the *"Sirona Server"* software must be installed and configured with the *"Sirona Registry Server"*, *"Sirona Launcher"*, and *"RequestScan"* components. You will find more information on this in the Sirona Server user handbook.

IMPORTANT

Exporting to Dolphin 3D is available if CEREC Ortho SW has been started via the Dolphin 3D software.



1. Click on the *"Dolphin 3D"* button.

IMPORTANT

If the scan is requested via Dolphin 3D, exporting to Dolphin 3D starts automatically when switching to the EXPORT phase. In this case clicking on the *"Dolphin 3D"* button is not required.

2. Click the *"Add..."* button in the window that appears.
3. In the menu that appears, select the menu option *"Import Upper and Lower Arch Models from CEREC Ortho Scanner"*.
 - ↳ While the data is being sent to Dolphin 3D the *"Loading Arch Models... Please wait..."* message is displayed.
 - ↳ When the data is sent, a confirmation message appears.
4. Click the *"OK"* button in the confirmation message.
 - ↳ The data has been sent to Dolphin 3D and can be processed there.

Index

C

Code libraries, 22

Cut

 Invert model area, 26

 Remove model area, 26

D

Display objects

 Lower jaw, 27

 Transparency, 27

 Upper jaw, 27

G

Guided scanning, 30

L

Licenses, 22

M

Manual

 html format, 8

 PDF format, 8

P

Phase

 EXPORT, 39

 MODEL, 37

S

Safety information, 7

Scan objects, 30

Software

 Uninstallation, 12

T

Tool wheel, 10

Tools, 25

V

Views

 Change, 25

 Enlarge, 25

 Global, 25

 Reduce, 25

W

warm-up time

 Camera, 29

We reserve the right to make any alterations which may be required due to technical improvements.

© Sirona Dental Systems GmbH 2015
D3534.208.06.01.02 01.2015

Sprache: englisch
Ä.-Nr.: 000 000

Printed in Germany

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